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MOLECULAR BIOLOGY OF THE CELL

SECOND EDITION

Bruce Alberts • Dennis Bray
Julian Lewis • Martin Raff • Keith Roberts
James D. Watson



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Bruce Alberts received his Ph.D. from Harvard University and is currently Chairman of the Department of Biophysics and Biochemistry at the University of California Medical School in San Francisco. *Dennis Bray* received his Ph.D. from the Massachusetts Institute of Technology and is currently a Senior Scientist in the Medical Research Council Cell Biophysics Unit at King's College London. *Julian Lewis* received his D.Phil. from Oxford University and is currently a Senior Scientist in the Imperial Cancer Research Fund Developmental Biology Unit, Dept. of Zoology, Oxford University. *Martin Raff* received his M.D. degree from McGill University and is currently a Professor in the Biology Department at University College London. *Keith Roberts* received his Ph.D. from Cambridge University and is currently Head of the Department of Cell Biology at the John Innes Institute, Norwich. *James D. Watson* received his Ph.D. from Indiana University and is currently Director of the Cold Spring Harbor Laboratory. He is the author of *Molecular Biology of the Gene* and, with Francis Crick and Maurice Wilkins, won the Nobel Prize in Medicine and Physiology in 1962.

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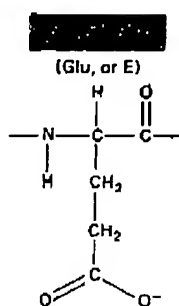
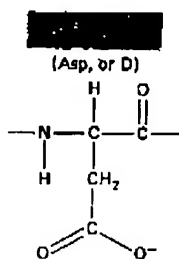
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ACIDIC SIDE CHAINS

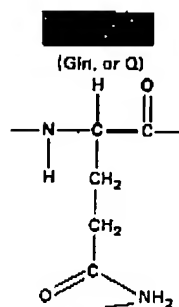
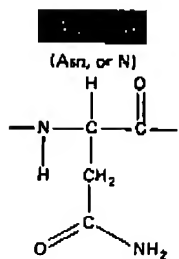
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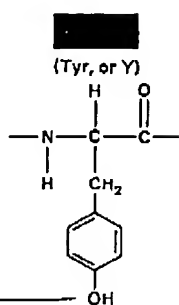
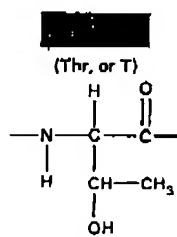
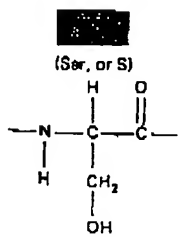


Amino acids with uncharged polar side chains are relatively hydrophilic and are usually on the outside of proteins, while the side chains on nonpolar amino acids tend to cluster together on the inside. Amino acids with basic and acidic side chains are very polar and they are nearly always found on the outside of protein molecules.

UNCHARGED POLAR SIDE CHAINS

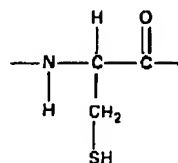
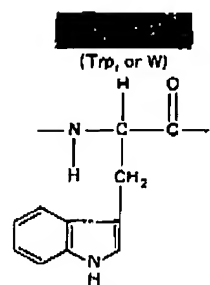
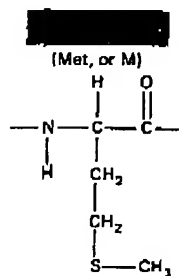
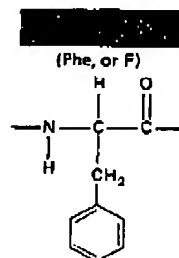
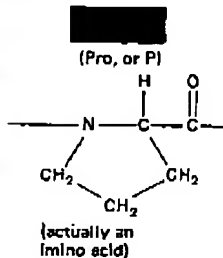
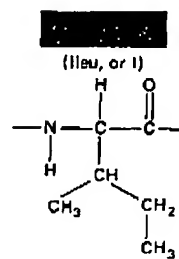
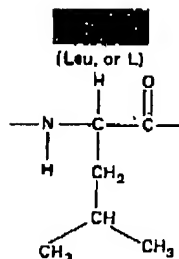
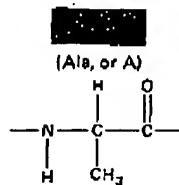
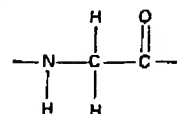


Although the amide N is not charged at neutral pH, it is polar.



The -OH group is polar.

NONPOLAR SIDE CHAINS



Paired cysteines allow disulfide bonds to form in proteins.

